UEP

Washington Office
One Massachusetts Avenue, N.W., Suite 800
Washington, D.C. 20001
(202) 842-2345 • Fax (202) 408-7763 • Fax (202) 682-0775

United Egg Producers

Al Pope
President

Ken Klippen
V.P. Government Relations

Michael McLeod
Washington Counsel

Randy Green
Sr. Government Relations Rep.

September 8, 1999

Dockets Management Branch (HFA-305)
Food and Drug Administration
5630 Fishers Lane, Room 1061
Rockville, MD 20852

Dear Sir or Madam:

RE: Docket Nos. 98N-1230

United Egg Producers (UEP), a nationwide cooperative representing about 80% of the U.S. egg production industry appreciates this opportunity to offer comments following the FDA and FSIS joint meeting August 26, 1999 to discuss an action plan to address the presence of Salmonella Enteritidis (SE) in shell eggs using a farm-to-table approach. There are two issues that UEP is addressing: (1) The overarching goal, and (2) The force molting of chickens.

In the Federal Register notice for the above named meeting, the overarching goal was established: "To protect the public health by ***significantly reducing*** the number of foodborne illnesses associated with SE in eggs..." At the meeting, the overarching goal was changed to: "***To eliminate the incidence*** of SE illnesses associated with the consumption of shell eggs..." UEP supports every effort to protect the nation's consumers, but the total elimination of Salmonella-related incidences is an unrealistic goal. UEP supports every effort ***"To further reduce"*** the incidence of SE illness associated with the consumption of shell eggs, and in fact, that was the stated goal by every public official at this meeting.

The second issue concerns the worldwide industry practice of ***molting*** chickens and it relationship to SE. Some of those in attendance have actively campaigned for the discontinuation of this industry practice claiming a public health concern when their organizations they represent are mainly concerned with animal welfare issues. Federal agency decisions impacting any industry must take into consideration both a science-based approach as well as an economic impact analysis of that

UEP Headquarters
1303 Hightower Trail, Suite 200 • Atlanta, Georgia 30350
(770) 587-5871 • Fax (770) 587-0041

decision.

Our farmer-based organization was the first animal agriculture association to establish Good Husbandry Practices with the publication of guidelines for laying hens in 1982. A new committee has been established to further refine these guidelines consistent with the latest technologies and understanding of avian philosophy. University, government, and animal welfare organization representatives comprise this committee (a copy of the listing of committee members and their affiliations is attached).

Management Practice of Molting

To meet the needs of the growing demand for shell eggs and egg products, the nation's egg industry has implemented a number of modern technological innovations including major advancements in genetics research, nutrition of dietary requirements at different ages and stages of production, management of diseases through vaccination and improved biosecurity measures, and the mechanization of the collecting, processing, packaging, and shipping of the eggs. Management has also instituted production techniques adopted by egg producers worldwide to extend the effective egg-laying life of the chicken by capitalizing on the natural cycles of wild birds. This is referred to as flock recycling or induced molting and it becomes an effective management tool for retaining flock of chickens.

Traditional molting techniques, which involve temporary feed removal, have been intensively researched for over 25 years and safely employed by the industry since at least the early 1900's. Indeed, molting is a normal process of chickens and other feathered species, occurring naturally in both sexes. In the wild, birds usually shed and then renew old, worn plumage before the onset of winter and their migratory flights.

Approximately 75% of U.S. flocks are intentionally molted as part of a normal management program. Laying hens kept for commercial egg production have a different molting pattern than birds in the wild because domesticated birds have been bred for high performance, and their environment (especially temperature and light) is usually modified to remove seasonal influences. Natural molting normally does not occur until the end of an intensive period of egg laying or under a variety of stressful conditions. With induced molting, a layer flock is induced to shed and replace its feathers at a time selected by the flock manager in order to control conditions, thereby optimizing flock performance and minimizing the period of reduced egg production. In other words, an entire flock can molt at one time, rather than the alternative of birds molting under widely divergent, varying and random schedules, which produces an entirely unmanageable situation.

When molting, hens are taken out of production for a period of about four weeks, allowing the oviduct to rejuvenate and then produce eggs with a higher interior and exterior quality. Hens also are able to produce eggs for two or three laying cycles, which allows the hen to rest while the reproductive system is regenerated. When hens are given this rest period, the life of the flock is

often extended 40-65 weeks, declining exterior and interior quality is corrected, and, of course, flocks do not need to be replaced as frequently.

The American Veterinary Medical Association (AVMA) has declared molting to be an acceptable practice, cautioning only against the removal of water for a lengthy period of time, which is no longer practiced. Extreme care is always utilized when implementing a molting period as is the case with all flock management practices. Body weight losses and mortality are but two key areas of monitoring during the molting phase.

Research shows that molting chickens has positive effects; increased productivity (Noles, 1996; Lee, 1982, Zimmerman et al., 1987), and less mortality (Lee, 1982). The procedures of a scheduled molt had a beneficial effect on laying hens by providing a rest period after an intensive laying cycle (Lee, 1982) while synchronizing the chickens for a second laying cycle maximizing efficiencies.

The best programs for molting, according to North and Bell (1990), cause a quick cessation of production uniformly that keeps mortality reduced to a minimum. There are many methods for molting chickens (Whitehead and Shannon, 1974; Berry and Brake, 1987; Sekimoro et al., 1987; Breeding et al., 1992), feed removal (10-14 days) combined with reduced photoperiod (16 h. to 8 h.) remains the best choice with the various considered above(bell, 1987; Brake, 1993, 1994). The chickens require 9-10 weeks before resuming optimum egg lay, which is generally 80-90% of the maximum lay achieved during the initial cycle.

What Is The Science?

UEP understands that FDA is seriously considering investigations of Dr. Peter Holt's, USDA/ARS, from the Pennsylvania Pilot Project and subsequent laboratory research. Dr. Holt himself has stated in an analysis of the effect on transmission of Salmonella Enteriditis with the management practice of molting "...reflects data from experimental procedures, and **caution** should be exercised before extrapolating the results derived from the laboratory to on-farm experience." That is our point exactly. But to be more specific there are a number of factors to consider from the test results before conclusive results can be considered scientifically accurate.

Pennsylvania Pilot Project
Prevalence of Positive Eggs
by 5-Week Intervals Before and After Molting
in Flocks that Underwent a Molt:

Status of Flock Number of Weeks Pre or Post Molt	Number of Flocks Tested	Number of Eggs Tested	Number of SE Positive Eggs	Percent of SE Positive Eggs
20-16 Premolt	3	7,000	4	0.0571%
15-11 Premolt	9	16,000	1	0.0063%
10-6 Premolt	12	23,000	4	0.0174%
5-0 Premolt	12	21,000	5	0.0238%
0-5 Postmolt	6	9,000	13	0.1444%
6-10 Postmolt	8	19,000	5	0.0263%
11-15 Postmolt	9	18,000	2	0.0125%
16-20 Postmolt	10	28,000	11	0.0393%

1. Is there any supporting evidence in FDA's "tracebacks" program to substantiate a higher proportion of SE in molted flocks than would be expected by the relative number of molt flocks versus pullet flocks? Dr. Holt never stated that "molting causes SE positive flocks."
2. The concept of pre-molt and post-molt is not defined. Does molt represent the day of initiation or some other definition, e.g., after four weeks post-initiation or after eight weeks post-initiation?
3. All the ratios in the pre and post-molts are greater than USDA's estimates of 1:20,000 figure. Is this due to the area of investigation?
4. Due to the nature of egg production following a molt (zero eggs by the 5^{th} to 6^{th} day) and no egg production for three weeks thereafter, it would seem that the 9,000 eggs quoted for the 0-3 week post-molt period would have had to be laid either in the first five to six days of the molt or the last of the five week period (or combination of the two). If they were principally first week-eggs, they would be thin-shelled with a high percentage of cracks. If they were fifth week eggs, their shells would be better, but the rate of lay would have been very low and many birds would not have been sampled because they had not returned to lay yet.
5. The author states that age may be confounding factor in interpreting these results. Yet, most of the big differences are between periods #4 and #5 and these are only five to ten weeks apart.

The prevalence rate between period #4 and #5 increased seven-fold. It is interesting to not that the pre-molt flock in #2 was only 1/10 the incidence of the pre-molt flock in #1 without any intervention of any sort.

The USDA's Agricultural Research Service (ARS) is currently addressing this question of funding for projects such as molting and SE. Additionally, a leading vaccine manufacturer has accepted a research proposal to investigate the use of a gene-modified live salmonella vaccine in molted hens to determine inhibition of SE-shed in the eggs. It is our understanding that ARS is close to hiring a neuroscientist to investigate the impact on the avian brain during this process. UEP, therefore, requests before any recommendations are made concurrently with the President's Food Safety Council November 1st deadline, that the management practice of molting chickens not be an issue until the science is made available first.

Yours sincerely,

Albert Pope
President

Gene Gregory
Senior Vice President

Ken Klippen
Vice President and Executive Director
for Government Relations

encl: UEP Animal Welfare Scientific Advisory Committee

REFERENCES

Brake, J. 1993. Recent advances in induced molting. Poult. Sci. 72:929-931.

Brake, J. 1994. Feed removal remains predominant method of molt induction. Poult. Times 42:6 and 9.

Breeding, S.W., Brake, J., Garlich, J.D., and Johnson, A.L. 1992. Molt induced by dietary zinc in a low-calcium diet. Poult Sci. 71:168-180.

Holt, P.S., and Porter, R.E., Jr. 1993. Effect of induced molting on the recurrence of a previous *Salmonella enteritidis* infection. Poult. Sci. 72:2069-2078.

Lee, K. 1982. Effects of forced molt period on postmolt preformance of leghorn hens. Poult. Sci. 61:1594-1598.

Noles, R.K. 1966. Subsequent production and egg quality of forced molted hens. Poult. Sci. 45:50-57.

North, M.O., and Bell, D.D. 1990. Commercial chicken production manual, 4th ed. New York: Van Nostrand Reinhold, pp. 433-452.

Sekimoto, K., Imai, K., Suzuki, M., and Takikawa, H. 1987. Thyroxine-induced molting and gonadal function of laying hens. Poult. Sci. 66:752-756.

U.S. Department of Agriculture. 1995. Effect of molting on the prevalence of SE in layer flocks: *Salmonella enteritidis* Pilot Project progress report. Hyattsville, MD: USDA/APHIS, pp. 66-68.

Zimmerman, N.G., Andrews, D.K., and McGinnis, J. 1987. Comparison of several induced molting methods on subsequent performance of single comb white leghorn hens. Poult. Sci. 66:408-417.

UEP ANIMAL WELFARE SCIENTIFIC ADVISORY COMMITTEE

COMMITTEE MEMBERS

Dr. Jeffrey D. Armstrong – Chairman
Purdue University – Department of Animal Sciences

Donald Bell
University of California – Riverside

Dr. Bill Chase
Veterinarian

Adele Douglass
American Humane Association – Washington, D.C.

Dr. Patricia Y. "Scotti" Hester
Purdue University

Dr. Joy A. Mench
University of Calfornia/Davis – Department of Animal Sciences

Dr. Margaret Shea-Moore
USDA-ARS Livestock Behavior Unit

Dr. Ruth Newberry
Washington State University – Department of Animal Sciences

Dr. Larry Stanker
USDA-ARS Food & Feed Safety Research – College Station, Texas

Dr. Janice C. Swanson
Kansas State University – Department of Animal Science

Barrie Wilcox – Wilcox Farms – Roy, Washington

Gene Gregory – United Egg Producers

HEALTH AND HUMAN SERVICES

FOOD AND DRUG ADMINISTRATION

CROSS REFERENCE SHEET

Docket Number/Item Code:	98N-1230/C509
See Docket Number/Item Code:	97P-0197/C510 96P-0418/C509

UEP
United Egg Producers

Dockets Management Branch (HFA-305)
Food and Drug Administration
5630 Fishers Lane, Room 1061
Rockville, MD 20852

20857+0001

UEP Washington Office
One Massachusetts Avenue, N.W., Suite 800, Washington, D.C. 20001